

A METHOD AND SYSTEM FOR DYNAMIC POWER SUPPLY VOLTAGE
ADJUSTMENT FOR A SEMICONDUCTOR INTEGRATED CIRCUIT
DEVICE

5 ABSTRACT OF THE DISCLOSURE

10 A processor power supply voltage controller for throttling a processor's
(e.g., CPU, GPU, DSP) power supply voltage with respect to a temperature.
The controller includes a temperature sensor configured to sense a
temperature of a processor and generate a temperature signal in accordance
therewith. A regulator is coupled to the processor to provide a power supply
voltage to the processor. The regulator is also coupled to receive the
temperature signal from the temperature sensor and control the power supply
voltage in accordance with the temperature signal to maintain a stable
performance of the processor. The temperature sensor can be implemented as
15 a negative temperature coefficient resistor coupled to sense the thermal
environment of the processor (e.g., heat sink temperature, processor die
temperature, PCB temperature, ambient temperature in an enclosure, etc.).
The temperature signal can be implemented by using the temperature sensor
to control a feedback circuit coupled to the regulator.

20